

**PATENT**

**REMARKS**

Claims 1-3, 6-14, and 17-22 remain in this application. Claims 4-5 and 15-16 have been cancelled. In view of the above amendments and remarks that follow, Applicant respectfully requests favorable consideration and timely indication of allowance.

Claims 1-3, 11-14, and 22 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Parvathanathan et al. (WO 03/015364).<sup>1</sup> Claims 4-7 and 15-18 have been rejected

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<sup>1</sup> The rejection under 35 U.S.C. § 102(e) appears to be improper because it is based on a publication of an international application filed under the treaty defined in section 351(a) that does not designate the United States. Accordingly, Applicant has treated Parvathanathan as a publication under 35 U.S.C. § 102(a).

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under 35 U.S.C. § 103 as being unpatentable over Parvathanathan et al. in view of Shanmugan (XP-002254352). Claims 9-10 and 20-21 have been rejected under 35 U.S.C. § 103 as being unpatentable over Parvathanathan et al. in view of Massicotte et al. (US 2004/0136444). Based on the foregoing amendments, Applicant respectfully submits that these rejections are moot.

Applicant discloses a novel and unobvious approach for estimating a received pilot signal that is degraded by noise, fading and other factors in the communications environment. This may be achieved with a pilot estimation component that uses multiple filters having different frequency responses. Each filter generates a filter estimate and a prediction error from the received pilot signal. Combining coefficients are applied to each filter estimate based on the filter estimate's prediction error. The filter estimates are then combined to produce the estimated pilot signal.

The Patent Office relies primarily on Parvathanathan in support of the pending rejections. Parvathanathan discloses an adaptive pilot filtering scheme. The pilot filtering scheme of Parvathanathan includes a bank of filters. Each filter receives and filters the pilot signal. In addition, each filter derives a prediction error between the received pilot signal and the filtered pilot signal. However, in contrast to Applicant's approach, the prediction errors are not used to compute coefficients that are applied to the filtered pilot signals. Instead, the prediction errors are used to select the filtered pilot signal with the best performance. The selected filtered pilot signal is not weighted, nor is it combined with any other filtered pilot signals. The selected filtered pilot signal is used, without modification, for the estimated pilot signal.

Referring now to the specific claims, Applicant submits that they recite subject matter which is neither disclosed nor suggested by the prior art of record. Claims 1, 12, and 22, for example, recite a switching component that "applies a combining coefficient to each of the filter estimates based on the filter estimate's prediction error, and combines the filter estimates to produce a pilot estimate." (emphasis added). Parvathanathan does not apply a coefficient to any of its filtered pilot signals, nor does it combine these signals in any way. As explained above, the filtered pilot signal with the best performance is selected. Accordingly, Parvathanathan can be said to anticipate claims 1, 12, or 22.

Similarly, the combination of Parvathanathan with Sam and/or Massicotte does not render claims 1, 12, or 22 unpatentable. The Patent Office relies on Sam for disclosing Kalman filters

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and Massicotte for disclosing hard and soft switching methods. None of these references, either alone or in combination, disclose a switching component that “applies a combining coefficient to each of the filter estimates as a function of its respective prediction error and combines the filter estimates to produce a pilot estimate.” (emphasis added).

Claims 2-3 and 6-11 are dependent from claim 1, and claims 13-14 and 17-21 are dependent from claim 12. Accordingly, each of these claims include all the limitations of the claim from which it depends, and is therefore patentable for the same reasons set forth hereinbefore, as well as the additional limitations recited therein. These additional limitations will not be addressed at this time in view of the patentability of the independent claims.

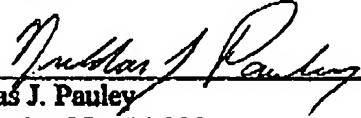
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**REQUEST FOR ALLOWANCE**

In view of the foregoing, Applicant submits that all pending claims in the application are patentable. Accordingly, reconsideration and allowance of this application is earnestly solicited. Should any issues remain unresolved, the Examiner is encouraged to telephone the undersigned at the number provided below.

Respectfully submitted,

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